Claims 1 to 11 stand finally rejected under 35 U.S.C. §103(a) as being unpatentable in light of the teaching of ***Breitenbach et al.*** (**US 6,221,368**). More particularly, the Examiner has reiterated the rejection taking the position that the teaching of ***Breitenbach et al.*** suggests that each of the active ingredients mentioned in the disclosure of ***Breitenbach et al.*** may be employed in the process taught by ***Breitenbach et al.*** to produce a solid dosage form, and that the teaching of ***Breitenbach et al.*** conveys that the concentration of each of the respective active ingredients is solely limited within ***Breitenbach et al.***'s range of from 0.1 to 95% by weight by the effect which is sought[1)].

Applicants respectfully disagree with the Examiner's interpretation of the teaching which was reasonably conveyed to a person of ordinary skill in the art by the disclosure of ***Breitenbach et al.*** at the time applicants made their invention[2)]. On the one hand, as already pointed out in applicants' previous reply, lipoic acid is mentioned by ***Breitenbach et al.*** merely within a generic section addressing active ingredients in general[3)]. Lipoic acid is, however, not included in ***Breitenbach et al.***'s enumeration of exemplary active ingredients which are to be employed in ***Breitenbach et al.***'s process[4)]. On the other hand, the teaching of ***Breitenbach et al.*** cannot be considered alone and without regard to the background knowledge which a person having ordinary skill in the art had at the time applicants made their invention.

In light of applicants' invention, the distinction made by ***Breitenbach et al.*** between active ingredients in general and active ingredients which are, for example, employed in the prior art process might appear insignificant. However, at the time applicants made their invention a person of ordinary skill in the art could not reasonably consider lipoic acid or physiologically acceptable salts

---

1) Page 3 of the Office action, lines 4 to 11, and page 4 of the Office action, lines 5 to 14, which refer to col. 6, indicated line 37 et seq., of ***US 6,221,368***.

2) "It is difficult but necessary that the decisionmaker forget what he or she has been taught ... about the claimed invention and cast the mind back to the time the invention was made (often as here many years), to occupy the mind of one skilled in the art who is presented only with the references, and who is normally guided by the then-accepted wisdom in the art" (W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303, 313 (CAFC 1983), cert. denied, 469 U.S. 851 (1984)).

3) Col. 6, indicated lines 31 to 58 at line 54, of ***US 6,221,368***.

4) Col. 6, indicated line 59, to col. 7, indicated line 63, of ***US 6,221,368***.

thereof as behaving equivalent to other active ingredients in the production of solid dosage forms. The fact that the preparation of solid dosage forms of lipoic acid and physiologically acceptable salts thereof was known to pose particular problems not generally encountered with other active ingredients is, for example, corroborated by the teaching of ***Sarlikiotis et al.*** (**US 5,527,539**), the teaching of ***Hettche et al.*** (**US 5,990,152**) and the teaching of ***Beisswenger et al.*** (**US 5,994,393**)[5] which specifically seek to obviate the problems encountered with lipoic acid formulations. ***Sarlikiotis et al.***, for example, point to the plasticizing properties of lipoic acid in the statement[6]

> *Higher concentrations of thioctic acid lead to problems when compressing the tablets. The moulding compounds tend to adhere to the compression tools. ... These problems are caused by the properties of the thioctic acid; the low melting point of the substance ... proves to be particularly critical.*

The teaching of ***Breitenbach et al.*** contains nothing which suggests or implies that the respective problems encountered with lipoic acid formulations are avoided, or even alleviated, when ***Breitenbach et al.***'s process is used. Accordingly, a reasonable person of ordinary skill in the art had to expect that the same or similar problems are encountered when lipoic acid or one of its physiologically acceptable salts is formulated using the process according to ***Breitenbach et al.***'s teaching. Also, at the time applicants made their invention, the then-accepted wisdom was that the respective problems and disadvantages are avoided by formulating lipoic acid in form of crystals having a particular particle size[7]. The process taught by ***Breitenbach et al.***, however, results in a *"solid solution"* or *"molecular dispersion"*[8] of the active ingredient in the binder polymer(s). A person of ordinary skill, therefore, had to expect that a solid dosage form of lipoic acid obtained by the process of ***Breitenbach et***

---

5) The references are of record through applicants' IDS and/or the Examiner's PTO-892 form.

6) Note col. 1, indicated lines 35 to 44, of ***US 5,527,539***. Note also col. 1, indicated line 9 et seq., of ***US 5,527,539***, which clarifies that "thioctic acid" is α-lipoic acid. See also col. 3, indicated lines 57 to 61, of ***US 5,990,152***, and col. 1, indicated lines 48 to 57, of ***US 5,994,393***. Note also page 1, indicated lines 23 to 32, and page 17, indicated lines 25 to 28, of the application.

7) Note, for example, col. 1, indicated line 59, to col. 2, indicated line 3, of ***US 5,527,539***.

8) Note col. 7, indicated line 64, to col. 8, indicated line 2, of ***US 6,221,368***.

al. was fraught with all the disadvantages of preparations comprising non-crystalline lipoic acid forms.

In light of this technical background knowledge which guided a person of ordinary skill at the time applicants made their invention, the distinction which is made in ***Breitenbach et al.***'s teaching between active ingredients in general and the exemplary active ingredients which are enumerated as suitable for the process disclosed by ***Breitenbach et al.*** is, therefore, deemed to be quite significant.

The foregoing also shows that, at the time applicants made their invention, a person of ordinary skill in the art could not reasonably consider ***Breitenbach et al.***'s statement that the concentration of the active ingredient in the formulation is solely determined by the effect sought[9] to be applicable when formulations of lipoic acid are concerned. Rather, in light of this technical background knowledge a person of ordinary skill in the art seeking a solid formulation of lipoic acid and evaluating the teaching of ***Breitenbach et al.*** for that purpose had to consider the provision made by ***Breitenbach et al.*** that the process taught is unsuitable for ingredients which are affected by the process conditions[10] to be of particular pertinence with regard to solid formulations of lipoic acid which is prone to polymerize. In light of the foregoing, the respective person of ordinary skill could not reasonably take the fact that ***Breitenbach et al.*** mention lipoic acid as a compound having vitamin B properties as a suggestion or indication that ***Breitenbach et al.***'s process is suitable to prepare a stable, solid dosage form of lipoic acid having a content of from 10 to 30% by weight of lipoic acid or a physiologically acceptable salt thereof as required in accordance with applicants' invention. The teaching of ***Breitenbach et al.*** is, therefore, not deemed to support that applicants' invention was, at the time it was made, obvious within the meaning of Section 103(a). Favorable reconsideration of the Examiner's position and withdrawal of the rejection of Claims 1 to 11 under 35 U.S.C. §103(a) based on the teaching of ***Breitenbach et al.*** is respectfully solicited.

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees, to Deposit

9) Col. 6, indicated lines 37 to 40, of ***US 6,221,368***.

10) Note col. 6, indicated lines 31 to 34, of ***US 6,221,368***.

Account No. 11.0345. Please credit any excess fees to such deposit account.

Respectfully submitted,
KEIL & WEINKAUF

Herbert B. Keil
Reg. No. 18,967

1350 Connecticut Ave, N.W.
Washington, D.C. 20036
(202) 659-0100

HBK/BAS